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ABSTRACT

This document contains four papers from a symposium on informal workplace learning. The first paper, "The Impact of Actor Strategies and Work Type on Learning Projects: A Multiple Case Study" (Rob F. Poell), reports on a multiple case study of four learning projects in two organizations that demonstrated that individuals' strategies and the type of work involved influence learning projects. A study in which the critical incident technique was used to identify those factors that influence successful assimilation into the work force for primary computer users is reported in "Learning the Ropes in the Workplace by Primary Computer Users--Organizational Socialization and Adaptation" (Donna H. Redmann, Wanda L. Stitt-Gohdes, Judith L. Lambrecht). "Curiosity: Its Role and Implications in Informal Workplace Learning" (Thomas G. Reio, Jr.) details a study in which 233 adults completed 3 curiosity instruments and a modified version of an instrument designed to determine levels of socialization-related learning in the workplace. The study presented in the paper "Outcomes Associated with Being a Mentor: Who Benefits from Being a Mentor?" (Ellen J. Mullen, Marjeane Thompson) examines the relationships between five clusters of mentor benefits and mentor and relationship characteristics. (MN)

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5. **Informal Workplace Learning**

Chair: Sharon J. Confessore, George Washington University

The Impact of Actor Strategies and Work Type on Learning Projects: A Multiple Case Study
Rob F. Poell, University of Nijmegen

Learning the Ropes in the Workplace by Primary Computer Users—Organizational Socialization and Adaptation
Donna H. Redmann, Louisiana State University
Wanda L. Stitt-Gohdes, University of Georgia
Judith J. Lambrecht, University of Minnesota

Curiosity: Its Role and Implications in Informal Workplace Learning
Thomas G. Reio, Jr., Virginia Polytechnic Institute and State University

Outcomes Associated with Being a Mentor: Who Benefits from Being a Mentor?
Ellen J. Mullen, Iowa State University
Marjeane Thompson, Iowa State University

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The Impact of Actor Strategies and Work Type on Learning Projects: a Multiple Case Study

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This study demonstrates that actor strategies and work type influence learning projects. These are instruments to systematically organize informal, incidental, and formal learning activities, carried out by a group of employees around a central work-related problem. A multiple case study was conducted of four learning projects in two organizations. Results from a qualitative analysis indicate that actor strategies have more impact than work type. Managers, trainers, and employees prefer different strategies.

Training is an important tool of human resource development. Its usefulness seems limited, however, to clearly defined qualification needs for which formal off-the-job learning activities can be designed. The shift of attention towards training on-the-job is an important extension of this approach (Jacobs, 1994). It is also widely acknowledged that a great deal of learning occurs informally and incidentally on-the-job (Marsick & Watkins, 1990; Lave & Wenger, 1991). This way of learning is likely to be effective, in that it responds directly to the work problems that employees experience. A combination of informal and incidental with formal learning activities may yield the best opportunities for organizations and their employees to solve the particular problems confronting them (Senge, 1990; Dixon, 1994; Van der Krogt, 1995).

Theoretical Framework and Problem Statement

Using informal and incidental learning for human resource development confronts us with a problem. How to capitalize on the strengths of informal learning, without resorting to mere formalization of these learning activities? The concept of a learning project may be useful in this respect.

A *learning project* is regarded as an instrument to systematically organize informal, incidental, and formal learning activities conducted by a group of employees, around a central work-related problem (Poell, Van der Krogt, & Wildemeersch, 1996). By solving work-related problems in a learning project, employees develop their competencies and simultaneously improve their work. Participation in a learning project comprises activities within three processes (Van der Krogt, 1995): development of a learning program, development of a learning policy, and the actual qualifying and learning process.

Empirical research indicates that learning projects can be very diverse in nature (Poell, 1995; Poell & Van der Krogt, 1996). In some learning projects, group reflection on current work problems is stressed, while other learning projects focus on the investigation of a new working method. Sometimes formal training activities comprise a large part of the learning program, while other projects emphasize groupwise review of individual learning experiences.

The reason why learning projects differ is as yet unclear. The learning network theory (Van der Krogt, 1995), however, proposes two possible explanations for the variation found among learning projects. 1) Actors (also referred to as stakeholders, such as employees, trainers, and managers) employ different *action strategies* in order to have the learning project correspond to their ideas and interests (cf. Cervero & Wilson, 1996). For example, trainers will be inclined to design formal courses, managers will try to implement a more efficient work organization, while learners will want to solve the concrete work problems that they face. Which type of learning project emerges depends on the interactions between these actors when they organize learning and work arrangements. 2) The diversity of learning projects is related to the different *types of*

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work in which they are carried out. For example, professional work and machine-bureaucratic work (Mintzberg, 1979) require different learning projects. This may be due to the different learning potential that these types of work offer.

Both actor strategies and work type are expected to contribute to the differences found in learning projects. The latter explanation proposes that a certain type of work will lead to a certain kind of learning project, while the former suggests that actors will create the kind of learning project they consider most useful to their purposes. The separate contribution of each factor cannot easily be determined, since the two are likely to be interrelated. What is more, all learning projects experience a *constant tension*, brought about by the need to do justice, on the one hand, to the various actor strategies *('actor relevance')* and, on the other hand, to the demands associated with the work characteristics *('work relevance')*.

For example, even if both managers and trainers are convinced that teams should learn to work more autonomously, they are likely to find that employees express different interests and, moreover, that the current work climate prohibits any organizational change in the short run. But they will still try to somehow accomplish their goals. In this view, the processes and structures in learning projects result from the strategies of actors to deal with the tension between their own interests and the organization's needs. The ongoing interactions between actors cause both learning arrangements and work to be constantly subjected to change.

To get a grip on these dynamics, we need to examine how actors in learning projects interact in order to integrate learning and work according to their respective views. *Four theoretical models* are distinguished that actors use to deal with the constant tension between actor relevance and work relevance:

1. In so-called vertical learning projects, the management decides on new work policies, the work-preparation staff translates these into work programs, and the education staff designs a learning program in which the learning group takes part. Tension is reduced by *representative consultation* of employees.
2. In horizontal learning projects, the learning group attempts to solve complex problems by processes of reflection on experiences, developing joint action theories, and bringing these into practice in an investigative manner. Tension is dealt with by *continuous mutual adaptation* of work improvement and employee development.
3. In external learning projects, the group is inspired by action theories developed outside the organization (e.g., new work methods developed by professional associations). The members of the learning group match their work to the acquired action theories. Tension is reduced by employees' *participation in professional innovation*.
4. In liberal learning projects, skilled individuals team up to enrich their own work improvement and learning programs with group reflection on their experiences. Tension is dealt with by creating *individual arrangements*.

This study examines the constant tension between actor relevance and work relevance experienced in learning projects. It aims to explain why learning projects differ from each other. We are not primarily interested in 'the right kind' of learning project to fit a certain work type. Rather, we wish to establish the different options available for actors to reduce the tension between actor relevance and work relevance. This should result in an empirically validated typology of learning projects.

Research Questions and Hypotheses

This study focuses on learning projects in two types of work, namely machine-bureaucratic work and professional work (Mintzberg, 1979). The following questions were investigated:

1a. What type of learning project is found in machine-bureaucratic work?
1b. What type of learning project is found in professional work?
2. Do different actors use different strategies to reduce the tension between actor relevance and work relevance?

The following hypotheses were formulated:

1a. Learning projects in machine-bureaucratic work are characterized by the model of

representative consultation. These are vertical learning projects.

1b. Learning projects in professional work are characterized by the model of participation in professional innovation. These are external learning projects.

2. Different actors prefer different strategies to reduce the tension between actor relevance and work relevance.

Methodology

Participants. Twenty-two people took part in this study. They were involved in four learning projects, conducted in four departments of two organizations.

In the first organization, a general hospital, two learning projects were studied. The first one (hereafter referred to as 'Lab') took place in a specialist chemical laboratory that provides work for 16 people. The work in this laboratory was expected to be of a professional nature. Participants were three analysts and four managers. The second one ('Care') was carried out in a surgical care department where 28 people are employed. This department was expected to have machine-bureaucratic work. Participants were three nurses, two managers, and one trainer.

In the second organization, a school for adult secondary education, two learning projects were studied. The first one ('General') took place in the department of general education which gives work to 32 people. The work in this department was expected to be of a professional nature. Participants were two teachers, one manager, and one trainer. The second one ('Dutch') was carried out in the department of Dutch as a Second Language for Immigrants (DSLI), which employs 30 people. This department was expected to have machine-bureaucratic work. Participants were three teachers, one manager, and one trainer.

All participants were highly educated, at the higher vocational or academic level. Fifteen participants were women. Five out of eight managers, two out of three trainers, and eight out of eleven employees (analysts, nurses, and teachers) were women. The number of years of work experience in the organization ranged from two to twenty, with an average of nine years.

Procedure. The study is a multiple case study of these four learning projects. All available documents of each case were studied, for example minutes of learning group meetings, proposals for learning programs, and evaluation sheets. Participants were selected for interviews on the basis of these documents and initial talks with key persons.

Participants were interviewed about the learning project using a semi-standardized topic list. The interviews took place from September through December, 1996. Interview topics included: work characteristics; participant's definition of the central problem; learning activities undertaken by the participant; the role played by the participant in the policy development, program development, and qualifying process; participant's action theories about learning and work; participant's opinion on the successfulness of the learning project.

Interviews lasted 60 to 90 minutes and were tape-recorded. Two to three page summaries were made by the interviewer and offered to participants for correction. Fifteen summaries were corrected and returned to the interviewer. Analysis was performed using fifteen corrected and seven initial interview summaries, supplemented with the available documents.

Analysis. A computer program for qualitative data analysis, called Kwalitan, was used to score interview scenes. For each learning project, a qualitative analysis was conducted which focused primarily on a description of the activities undertaken by the different actors. The activities took place in the context of the development of a learning program, the development of a learning policy, and the actual qualifying process. This analysis provided information on the strategies that different actors use to deal with the constant tension between actor relevance and work relevance.

Additional descriptions were made of the content structure and the organizational structure that resulted from the activities. This analysis provided information on the type of learning project that had emerged.

The result consisted of four case descriptions of learning projects. To determine its nature, each learning project was then compared with the four theoretical models that actors can use. Also, the cases in machine-bureaucratic work were compared with the cases in professional work.

Results and Conclusions

Short Case Descriptions.

Case 1. 'Lab' is a specialized chemical laboratory where analysts have highly skilled, non-routine jobs. They are highly autonomous in their work. The chemist working in the department plays a vital role in the introduction of new professional developments relevant to the analysts.

This case starts about a year ago, when the managers of the laboratory attend a training course on logistic improvement of business processes. They are urged to practice in their own laboratory what the trainers preach. They make a project planning to render the laboratory more efficient. Key activities are the measuring of time-per-task and the exact description of materials needed for each task. The analysts are involved in the project as well. They are asked to do the measurement and description part in small groups. The results will be fed back into the whole group.

The analysts are glad to be taken seriously, after feeling neglected in their complaints for a long time. A reorganization carried out two years ago has seen the other laboratories that perform more standardized jobs being treated with priority. 'Lab', in the words of the analysts, "has been a mess ever since". The analysts think the best solution to this problem is not to measure up their work and then tighten the schedules, but to improve work coordination and grant them more opportunities for professional development. They say that the managers are applying good logistic principles to the wrong kind of work.

Still, most of the analysts engage in a number of reflection sessions with the managers, devoted to describing the actual way they do their job. New work schedules are designed on the basis of this information. The material lay-out of the laboratory is improved. The analysts are quite satisfied with the new lay-out, but they claim that the new work schedules do not function adequately, because their specialized tasks cannot be standardized as far as time planning is concerned. The analysts claim that the managers are the ones who have learned most in this project, that is, the managers have finally found out how complex the analysts' work is. The managers are now thinking of other ways to make 'Lab' more efficient.

Case 2. 'Care' is a nursing department with highly standardized functions. Over the last three years, the department engages in a small-scale experiment to differentiate the nursing function into senior, regular, and assistant functions, in order to improve the quality of patient care. The senior function is non-hierarchical and stands at the center of care planning. The assistant function is concerned with cleaning, feeding, and personal patient care. Together with the regular nurses and assistants, seniors have to coordinate patient care.

Senior nurses and assistants start working next to regular nurses, even though nurses did not (and still do not) see the difference between what a senior does and what they do. What is more, even some seniors do not see the difference: "How do you get regular nurses to do what should be done if there is no hierarchical relationship and if they know very well what should be done themselves?" Still, the seniors earn more money. The problem is that nobody knows what differentiation of functions actually means, or how to go about achieving it successfully. The manager is worried, because her image of what seniors and nurses should do is far from realized. The seniors have their own meetings with the manager, in which they reflect on real-life situations that have taught them something new. Communication at work between seniors and nurses, however, is increasingly considered problematic, as witnessed in regular staff and work meetings.

Then the management decides that the whole department will engage in a learning program. The training department is asked to run three separate groups: management will learn about coaching (two days), seniors will learn about supervision (three days), and nurses will learn about intercollegial consultation (one day). It is stressed that the new skills should be practised as much as possible in daily work, and people really try their best during patient visits and work meetings. At a collective follow-up training session, the three groups take the opportunity to actually practise together. As a result of this session, one of the trainers is asked to become a process councellor for the group of senior nurses and the group of nurses. It is felt that communication is improving slowly, but nurses are still wondering why functions had to be differentiated in the first place. They have other ideas of how patient care can be improved without creating separate functions.

Case 3. 'General' is an adult education school department organized along professional lines. All teachers teach their own traditional subjects. They use and adopt well-known teaching methods. They are part of school-internal and external-professional bodies that offer them new insights into the didactics of their subject.

This case starts two years ago, when the school management asks an educational consultancy firm to help the school become more team-oriented and overcome the traditional individual work attitude of teachers. The school faces a changing student population in need of ever more flexible schooling programs. The advisors hold a survey among all teachers, in search of learning needs and problem areas. On this basis, teachers are invited to participate in learning groups to tackle the problems they encounter in their work. Two groups emerge, one of which is 'General' (the other one being Case 4, 'Dutch'). Participation is voluntary, since the management is primarily interested in the experiment itself, which will bring the school experience with team-based learning and work. Some 10 out of 30 teachers form a learning group around the theme 'open learning for adult students'. One manager, who is also a part-time teacher, participates in the learning group. Together with three teachers she forms a small preparation group who think out ideas for the plenary meetings. Firm discussions about the theme take place within this preparation group.

The first two plenary meetings are presented by two teachers, who talk about their own experience with the topic of 'open learning for adult students'. All teachers are very enthusiastic about the sessions and some start little experiments with 'open learning' in their own classrooms and the open learning center. A range of articles on open learning are discussed. Some members of the learning group attend each other's classes. The results of these activities are fed back into the group.

Two more plenary sessions are held, in which the consequences of open learning for school regulations are discussed. The manager does not fully agree on this next step, but accepts it for the sake of the learning group. She tries to work out a more consistent learning program with the help of an outside advisor, whom she contacts regularly about this problem. The teachers, however, are quite satisfied with the way the learning group is going. They enjoy the discussion, they are actually applying the new insights in their work, and they feel supported in their efforts by the learning group. At the end of the school year, the learning group suffers from a school reorganization and is temporarily stalled. But most participants including the manager are still eager to continue like they have done.

Case 4. 'Dutch' is another learning group in the same school as 'General'. The work in this department, however, differs from 'General'. DSLI is a relatively new subject, for which only few learning materials are available. There are some standardized modules that teachers can offer their students. What is more, the teachers are relatively unskilled in this subject, because teacher training in this domain is still scarce.

The manager of the department asks an outside expert on DSLI to design a training program around the theme of 'self-directed learning of immigrant students', which had emerged from the survey as a key problem area. The training course begins with an introductory meeting, for which all teachers are invited. Nearly all teachers attend this first meeting. During the course of six consecutive training sessions, however, voluntary attendance drops from twenty to six. The manager feels he cannot force people to attend the sessions. The teachers are unsatisfied with the course, which they feel is too theoretical and too trainer-driven. They do not see the relevance of the course content to their work. But there is little explicit protest. The teachers who finish the course do so simply because they are glad with any opportunity to learn about DSLI. They say their classes are benefiting from what they have learned in the application of some ideas from the training course.

The external trainer does not feel responsible for creating other learning activities outside the training program; the manager does not feel responsible for the creation of a true learning group; and the teachers are quite passive in the reception of DSLI knowledge. The teachers do try several times to start practical group discussions during the training sessions, but these are cut off by the trainer. This learning group suffers from the same school reorganization as 'General' and quickly fades away. Most people agree that they have not really tried to work out ideas about a teacher-driven learning group. They simply went with the trainer-driven flow.

Types of learning projects. Two learning projects were conducted in work with more machine-bureaucratic characteristics ('Care' and 'Dutch'), while the other two cases were carried out in work with more professional characteristics ('Lab' and 'General').

The dominant model used in 'Lab' and 'Dutch' to reduce tension between actor relevance and work relevance was representative consultation. These learning projects can therefore be termed *vertical*. In this model, the managers are dominant actors in the development of the learning policy of the project. In 'Lab', the managers also dominate the development of the learning program. 'Dutch' sees this process put in the hands of an external expert. In both cases, only the qualifying process is the dominant domain of analysts/teachers.

The dominant model used in 'Care' shifted from representative consultation in the beginning to continuous mutual adaptation later on. In other words: the top management decides that it would be good to have an experiment and implement a new work model, after which all actors in the department are expected to work out the accompanying problems for which no standard solutions are available at the time. They find themselves all in the same boat, searching for the best way to proceed, in all three processes. This learning project is a *vertical-horizontal* hybrid.

The dominant models used in 'General' were participation in professional innovation and continuous mutual adaptation, yielding a hybrid *external-horizontal* learning project. Both external insights and internal group reflection inspire this learning group. The teachers are dominant actors in the program development, policy development, and qualifying process. The manager acts as "one of the teachers".

Actor strategies. We found different interactions between actor strategies in the four cases.

'Lab' sees managers who prefer representative consultation. The analysts are more anxious to participate in professional innovation, but since this learning project gives them no such opportunity, they adapt to the model of representative consultation.

'Care' sees managers who prefer representative consultation. When they realize this model will not work, they switch to continuous mutual adaptation, which seems to be the preferred strategy of the nurses. The trainers follow this switch and adapt their approach to it.

'General' sees managers and teachers who both prefer continuous mutual adaptation, while teachers also prefer participation in professional development. In general, they all agree that these are the best ways to proceed in the learning project.

'Dutch' sees managers and trainers who both prefer representative consultation, while teachers prefer individual arrangements. Since the trainer is a dominant actor but her actions are not well-received by the teachers, the latter are forced to create individual learning programs to gain anything at all from the learning project.

Conclusions. The results support hypothesis 1a, in that vertical learning projects are found in machine-bureaucratic work. In one case, a vertical-horizontal hybrid emerged.

The results do not really support hypothesis 1b. Contrary to our expectation that professional work would see external learning projects, a vertical one and an external-horizontal hybrid emerged, the latter lending only some credibility to our hypothesis. There are two possible explanations why this hypothesis was not supported. First, the work type may not have been quite as professional as we thought. Perhaps it showed more characteristics of skilled labour, machine-bureaucratic work, or even adhocratic work. If we stick to hypothesis 1b, this would account for the different types of learning projects that emerged. Second, the work type may not be the most influential factor. It may be 'overruled' by the strategies that actors use to create the learning project they see fit for the problem at hand. This is the domain of hypothesis 2.

Hypothesis 2 is supported by our results. Different actors were found to prefer different strategies to reduce the tension between actor relevance and work relevance. Generally, managers seem to prefer the model of representative consultation, trainers seem to adhere to the choices made by managers, and employees seem to prefer participation in professional innovation and individual arrangements. Continuous mutual adaptation is a model that both managers, trainers, and employees seem to prefer when the nature of the central problem to the learning project so demands, that is, when nobody knows how to start solving it, let alone proceed in the right direction.

Although both factors are found to be influential, actor strategies seem to have more impact on the type of learning project than does the type of work in which it is conducted. Dominant actors, regardless of the work type, have a way of putting their strategy high on the agenda of the learning group, thereby trying to change the work type in their favored direction (e.g., managers trying to make work more machine-bureaucratic, employees to make it more professional). Depending on the position of the other actors, they can or cannot prevent this from happening.

We have shown that there is a wide variety of ways to deal with the constant tension between actor relevance and work relevance experienced in work-related learning projects. The type of learning project that emerges is related to the type of work and, more strongly, to the dominant model of actor strategies in use. The theoretical typology of four models to deal with tension seems to have an empirical basis of support.

Contribution to New HRD Knowledge

This study has offered new views on the integration of learning and work. Work-related learning projects were presented as an alternative to formal training, in that they can be regarded as instruments to systematically organize work-related learning. The study emphasizes the importance of recognizing different actor strategies and work characteristics in organizing work-related learning. It provides actors with a range of alternative strategies to organize learning in a way that corresponds to their ideas and interests, and to their work.

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Learning the Ropes in the Workplace by Primary Computer Users--- Organizational Socialization and Adaptation

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The purpose of this study was to determine those factors that influenced successful assimilation into the workforce for primary computer users. The study focused on individual employee perceptions of instances in their work that reflect either (a) effective or (b) challenging and problematic aspects of their job. Using the critical incident technique, 65 nondirective/open interviews were conducted nation wide. Two groups were interviewed: novice employees and experienced employees. Seventy codes emerged from the seven interview questions.

The problem with which this study is concerned is that historically, office/work-related research in office education/training has focused on the general of lists of tasks and/or skills. Even the recent SCANS report, "What Work Requires of Schools," documents five competencies and a three-part foundation for skills and personal qualities necessary for substantial job performance. While none would doubt the veracity of such a list or the need for it, it is still a list of skills. Another example of the nature of workplace competencies and an indication of the breadth of expectations that goes beyond specific skills, is the Workplace Basics report from the American Society for Training and Development. The most fundamental of their seven skill groups is "Learning to Learn." Including this, the remaining six skill groups are the following: Learning to learn; Three R's (Reading, Writing, Computational); Communication; Listening and Oral Communication; Creative Thinking/Problem Solving; Self-Esteem/Goal Setting--Motivation/Employability-Career Development; Interpersonal/ Negotiation/Teamwork; and Organization Effectiveness/Leadership.

The fundamental importance of "Learning to Learn" as a job competency is reinforced by research focusing specitically on secretaries which concluded that learning the job is a major part of the job (Hart-Landsberg, Braunger, Reder, & Cross, 1992). Part of learning the job means understanding the role which a worker plays as part of the larger work environment. Other research (Hirshhorn & Mukray, 1992) has supported the conclusion that skill possession alone is insufficient.

As industry continues to spend billions of dollars each year on additional training required to bring employees up to needed performance levels, it would appear evident that the continued identification of required skills alone is not a sufficient basis for preparation of future workforce employees. It appears that what current practice has yet to do is consider educating the "whole" person with regard to how they fit into the "big" organizational picture. The process of socialization or "learning the ropes" in new job settings can be viewed as a more productive perspective than training alone which focuses only on routine work tasks or skill-based competency lists (Feldman, 1991). Rather, the focus should shift to the larger question of an individual's conformity to or deviance from the demands of the organization and the extent to which such performance contributes to organizational effectiveness. Therefore, the purpose of this study is to determine those factors that influence successful assimilation into the work force for primary computer users. The focused was on individual employee perceptions of instances in their work that reflect either (a) effective or (b)

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challenging and problematic aspects of their participation in a work group. A full understanding of these factors will be useful to all office/business teachers and trainers in developing training curricula appropriate for the workforce for the future.

Objectives

In order to gain a more holistic understanding of work requirements, namely perceptions that computers users have of job demands, employer expectations, and problem-solving resources, three study objectives were developed. They are to:

1. Determine when primary computer users feel competent and why;
2. Determine how obstacles/problems are handled on the job;
3. Determine the most challenging parts of primary computer user jobs and why.

Need for the Study

Industry surveys have continued to support the need for better-educated employees who not only possess the basic "Three-Rs", but have broader workplace skills with a foundation of knowing how to learn on the job (SCANS, 1991; ASTD, 1990; Hirshhorn & Mukray, 1992; Feldman, 1991). However, these reports have also confirmed that a highly technology-dependent, information-based society is too dynamic to support the assumption that individuals should be the primary focus for teaching employment competencies. Rather, employment competencies exist not in individuals, but in a complex system that includes social work settings, tools, problems, and communities of people who have a common purpose. In short, employment competencies can be neither understood nor communicated for learning apart from some meaningful employment context. The individual worker must function in concert with a whole employment entity. Without the wholeness that comes from the interaction of a complex situation, the individual has little opportunity to make an effective contribution and become a competent, successful employee.

Current training practices are geared toward instruction in and mastery of a list of technical skills, and little attention has been given to the development of higher level cognitive skills such as problem solving or learning as part of a work team. At its simplest, this qualitative/naturalistic inquiry study is needed because of the historical precedent of the generation of lists of skills needed by office workers. A more social/cultural perspective would broaden the scope of what can be examined at the work site. This study permitted many primary computer users to be interviewed so as to gather a depth and breadth of data unobtainable through traditional survey research. This more holistic, case-oriented approach allowed employed primary computer users to describe exemplary performance and challenges in their work in a open-ended way that will eventually allow common aspects of successful performance to be identified. The descriptions of challenges, obstacles, and problems will provide insights into the nature of technology problems and successful problem solving practices as well as areas for needed instructional or organizational support. Deeper understanding will be gained about skills that are important in information systems employment settings and also about how resources and other constraints of the work setting affect individual performance.

A clear understanding of the organizational culture is critical to the success of any employee, and a critical aspect of organizational culture is organizational effectiveness. This means each employee must determine the "behaviors, attitudes, and knowledge [needed] to achieve success on the job both as an individual and as a member of an organization" (Carnevale et al, 1990, p. 353). This process of learning how to behave where, when, and with whom is often referred to as "learning the ropes." Carnevale et al (1990) go on to report that organizational adaptability or "An individual's ability to adapt to an organization's particular operating culture is perhaps the single most helpful skill in the search to achieve workplace success" (p. 356). This begs the question, Where in the training curricula is the issue of organizational adaptability addressed? At what point in the office education curricula can (or should) employment competencies be integrated with the demands of organizational work groups?

Current research regarding employee adaptation and socialization and organizational adaptability is beginning to establish data to support the premise that, in fact, education and training can no longer focus simply on needed skills but rather needs to expand its focus to include the *entire* individual who will enter the workforce and the *context* in which this person assumes a role. Learning is being recognized as ubiquitous in ongoing activity (Lave, 1993). Learning is also inherently social (Mercer, 1992). The learning that trainers/teachers of office workers are most interested in for their students is learning which results in changes in knowledge and action. It is the intent of this study to begin to examine these contexts in order to gain greater understanding of workplace learning within the office settings.

Procedures

Given that both learning and competent work performance are inherently social activities, activity systems theory was chosen as a conceptual based upon which to develop the research questions of this study, to direct the choice of procedures, and guide the data analysis. Activity systems theory has usually been identified with the work of Engestrom (1989) and Lave (1988) and has been the basis for research in understanding complex social activities (Lave, 1990, 1992; Cole, 1991; Cole & Engestrom, 1993; Moll, Tapia, & Whitmore, 1993; Mercer, 1993; & Pea, 1993). The research "Learning the Ropes: The Social Construction of Work-Based Learning" (Hart-Landsberg, el al 1992) not only applied the concept of activity systems to work settings, but focused specifically on the work of secretaries. In essence, activity systems are considered to be the smallest unit of analysis for understanding individual behavior in social groups.

An activity system is comprised of the following components: a community with a common purpose; subjects (employees), instruments or tools; objects or outcomes of activities; a division of labor or work-related roles; and rules (either implicit or explicit with affect behavior). Not only is the activity system as a whole seen as the unit analysis, but it is has a historical basis for its existence, and the entire system is in a constant state of change through inner contradictions which lead to disruption, innovation, change, and the development of the system itself, including its individual participants (Engestrom, 1993). A deeper understanding of organizational culture and the activity systems which comprise it can be gained through ethnographic methods that include long-term visits within employment settings (Flanagan, 1954; Borg & Gall, 1989). The critical-incident technique can capture employee interpretations of their work settings.

The critical incident technique was selected as the most appropriate through which to gather data relevant to the purpose of this qualitative research project. This technique allowed for the capture of employee interpretations of their work settings and was a method which could be used consistently by a national group of data collectors. The use of the critical incident technique has recently been identified as among those job-analysis tools which are most likely to capture a more wholistic or professional-oriented description of work-place requirements (Bailey & Merritt, 1996; and Merritt, 1996).

Prospective interviewers were solicited at two national conference: the 1994 Delta Pi Epsilon National Research conference and the 1995 National Business Education Association conference. At these conferences, sessions were held to acquaint possible participants with the purpose of the project and an overview of the procedures. The interviewers were provided with an instructional booklet which detailed the procedures for conducting the interviews. Approximately 38 volunteers agreed to interview two primary computer users for this study. A primary computer user is defined as an employee in an information processing area of the firm who uses a desktop computer for more than 50% of his/her job responsibilities. At least two different employees were interviewed in each firm contacted: one employed in this firm for at least six months but less than one year and one employed in this firm for at least three years but less than five years. Equal representation of gender was sought. Sixty-five nondirective/open-ended interviews were conducted, recorded, and transcribed in their entirety. The transcribed interviews were mailed to the interviewers who in turn shared them with the interviewees. The transcripts were then reviewed for accuracy and completeness

by the interviewees. These face-to-face interviews lasted from 30 to 60 minutes each. The following questions guided the interviews:

1. Describe as many critical/significant/important experiences that are example of what you do will in your current job.
    a. Why do you feel competent?
    b. How did you learn to do this?
2. Describe as many critical/significant/important experience that are examples of problems in your current position that you could not solve quickly on your own.
    a. What do you do when you have a problem?
    b. What resources do you use when you have a problem?
    c. When do you or have you felt incompetent and why?
3. What experiences would you like to have that would have helped you or could help you to become more competent?
4. What other roles would you like to try in your organization?

Findings

Demographics. Relevant data regarding gender, education, age, size of employing firm, and number of years of work experience were gathered. Not surprisingly, the majority of participants, 89% (n=58), were female, with 11% (n=7) males. The educational background of the participants was quite varied with the largest group, 33.9% (n=22) holding a bachelors degree; followed by high school diploma, 29.2% (n=19); associate degree, 26.2% (n=17); and certificate, 10.7%, (n=7).

The participants range in age from 19 to 55, with the majority, 75.4% (n=49),between 20 and 39 years of age. Most of the participants also worked for a medium-large or large firm, 81.5% (n=53). For this study, a medium-large firm was defined as one employing 100-499 people and a large firm as one employing 500 or more people. For the purpose of this study, two groups were interviewed: novice employees and experienced employees. Novice employees were those employed less than one year at their present firm and accounted for 55.4% (n=36) of the group; and experienced employees were those employed one or more years at their present firm and accounted for 44.6% (n=29) of the group. The study participants' job titles varied somewhat; however, the following emerged as the most prevalent: office workers, 32.3% (n=21); executive secretary, 10.8% (n=7); data entry clerk, 9.2% (n=6); reports specialist, 3.1% (n=2); word processing specialist, 3.1%, (n=2); and other, 41.5% (n=27).

Table 1 - "Why do you feel competent?" Codes and Rank Order

Category	Number of Responses	% of 65	Rank Order
Mastery of computer-based system/software	47	72%	1
General office work	29	45%	2
Production of high-quality, accurate work	23	35%	3
Drawing on special expertise	16	25%	4
Interpersonal skills	16	25%	5
Helping other solve problems	14	22%	6
Developing projects/procedures with minimal instructions	13	20%	7
Ability to interpret expectations/prioritize/anticipate	12	18%	8
Ability to explain/interpret computer-generated information	8	12%	9
Phone communications	8	12%	10
Master new software without formal training	5	8%	11
Training others on computers	5	8%	12
High quantity/efficient work	3	5%	13
Grammar/writing skills	1	2%	14

Interview Codes. Based on the interview questions developed for this study and the coding process which followed, a total of 70 codes emerged for the seven questions. Tables 1-7 present the codes and their subsequent rank order with one indicating the most common response. The participants were asked what they do well or why they feel competent. Mastery of computer-based systems/software was ranked number one, as provided in Table 1. Not surprisingly, the most common code for the "Why I feel competent" category which emerged from the data for these participants was "Mastery of computer-based system/software." Indeed, in today's technology-impacted business environment, the next two most common codes, general office work and production of high-quality, accurate work, are to be expected for this study group.

Those interviewed were also asked to share how they developed these competencies. As indicated in Table 2. The most common response was that they simply learned the skills on the job.

Table 2 - "How I learned to do this?" Codes and Rank Order

Category	Number of Responses	% of 65	Rank Order
Informal, on-the-job training/observation/picking things up	46	71%	1
Formal classroom training programs while employed	32	49%	2
Prior formal education	30	46%	3
Transfer of knowledge from other systems/prior experience	26	40%	4
Self-taught	24	37%	5
Using books/references/manuals/company policy guides	23	35%	6
Access to individuals	15	23%	7
Asking questions	14	22%	8
Pursuit of own interests	7	11 %	9
Help lines	5	8%	10
Creation of personal notebooks	5	8%	11
Examination of prior work	5	8%	12

When those interviewed were asked to describe problems which they encountered in their daily work, nine categories emerged from the data. These categories and their rank order appear in Table 3. Again, as the participants are primary computer users, it is not surprising that the most common problem encountered was that relative to technical and software issues.

Table 3 - "Problems encouraged" Codes and Rank Order

Category	Number of Responses	% of 65	Rank Order
Technical problems: software versions; system down; transcription issues	36	55%	1
Depending on other people for information/work/support	20	31%	2
Using new software	18	28%	3
Getting accurate information	11	17%	4
Dealing with workflow--pressure versus slack	10	15%	5
Lack of experience	9	14%	6
Knowing expectations	6	9%	7
Prioritizing work from several people	2	3%	8
No problems	1	2%	9

The follow-up questions to problems encountered asked those interviewed, "What resources do you use when you have a problem?" The common codes which emerged here perhaps reveal the critical aspect of the socialization effect within an organization where an individual develops a relationship with others to whom they may turn for help. The codes and their rank order are presented in Table 4.

Table 4 - "What resources are used?" Codes and Rank Order

Category	Number of Responses	% of 65	Rank Order
Another person, on-site or in organization	60	92%	1
Using on-site material	37	57%	2
Just coping/patience/logic	21	32%	3
Self-learning	13	20%	4
Communicate directly with people involved	11	17%	5
Help lines	9	14%	6
Other persons outside organization	7	11%	7
Using personal notes	3	5%	8
Anticipate possible solution & present to decision maker	2	3%	9
Delegate/hire new person	2	3%	10

The other critical aspect of this study was to determine when these individuals felt incompetent. Not surprisingly, the most common response was "learning new software." Again, given the extensive use of computers by these individuals, this was an expected problem area. Table 5 illustrates the common codes for this category and their rank order.

Table 5 - "When do you felt incompetent?" Codes and Rank Order

Category	Number of Responses	% of 65	Rank Order
Learning new software	15	23%	1
Learning new job	13	20%	2
Need broader understanding of company or topic	12	18%	3
Need deeper software understanding	10	15%	4
Don't feel incompetent	10	15%	5
Communicating expectations	7	11%	6
General mistakes	5	8%	7
Technical dilemma	3	5%	8
New job assignment	2	3%	9
Lack of authority	1	2%	10
Performing infrequently/lack of familiarity	1	2%	11

As all the study participants had worked in their current jobs for at least six months, they were in a position to share desired experiences which they felt would help them become more competent in their everyday work. The most common responses, as evidenced in Table 6, include "greater software/computer training" and "more on-the-job training."

Table 6 - "Experiences desired" Codes and Rank Order

Category	Number of Responses	% of 65	Rank Order
Greater software/computer training	32	49%	1
More on-the-job experiences/training	26	40%	2
More formal education	15	23%	3
Specific skill other than software or computers	9	14%	4
General company familiarity/communication within company	7	11%	5
Learning general work expectations	4	6%	6
Uncertain	4	6%	7
None	1	2%	8

Finally, participants were asked if there were other roles they would like to try in their organizations. The two most common responses represent a curious divergence. The most common response indicated either a move up or across to a different job. The second most common response indicated no change desired. These and the remaining responses are presented in Table 7.

Table 7 - "Other roles I would like to try" Codes and Rank Order

Category	Number of Responses	% of 65	Rank Order
Move up or across to different job	29	45%	1
No change desired	18	28%	2
Next higher level up in organization	12	18%	3
None in this office/organization	10	15%	4
Need/desire for a degree (associate or bachelor's)	10	15%	5
Particular job not desired	8	12%	6
Expand existing job	8	12%	7
On-the-job training	1	2%	8
Job opportunities uncertain in company	1	2%	9

In summary, the data which emerged from the participants in this study provide some support that this group of primary computer users do, indeed, demonstrate those six qualities reported in the Workplace Basics report from the American Society for Training and Development. Those interviewed were independent learners, sought help when needed, and recognized specific area for needed continuing growth and development.

Potential Contribution of the Study

The historical importance of specific job competencies to the preparation of office employees is acknowledged by proposing to broaden the scope of defining these competencies in a way that coincides with current research and conceptual development in the fields of education, training, psychology, anthropology and sociology. Researchers of strong repute who identify themselves both with formal educational settings as well as organizational development in industry have challenged office educators to respond to new ways of conceptualizing learning. The complex interplay of organizational culture and the inherently social nature of learning asks for more interpretative approaches in research that seeks to support successful organizational participation. This research study is an attempt to respond to this need in a way that is conceptual sound.

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17

Curiosity: Its Role and Implications in Informal Workplace Learning

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Little information exists about the possible role of curiosity in informal workplace learning. In this study, 233 adults took three curiosity instruments and a modified version of an instrument designed to determine levels of socialization-related learning in the workplace (a kind of informal learning). Significant positive relationships were found indicating curiosity or the desire for information does play an important role in workplace learning, especially with new employees. Implications for adult learning and organizational socialization theory and practice were discussed.

There is little question that learning extends beyond the confines of the classroom, especially into the work-related aspects of an individual's life (Wiswell, 1993). Much research has been done on organized learning through formal workplace learning endeavors such as training. Informal workplace learning (the kinds of learning that occur in a work setting, excluding formal, structured learning) is now receiving increased scholarly interest due to the recognition that many opportunities for learning arise daily and naturally (Watkins & Marsick, 1996). One significant example of informal workplace learning is the learning associated with the socialization process, the process through which employees "learn the ropes" of new jobs (Morton, 1993; Schein, 1988).

Curiosity, or the desire to gain information and knowledge, and thus learn (Berlyne, 1954), has been consistently tauted as a virtue of education (Berlyne, 1978) and a primary motivator and director of learning (Day, 1971, 1982; Driscoll, 1994). Yet, there has been little apparent interest in determining its role and importance in adult learning (Rossing & Long, 1981; Tucker, 1986). Tucker, interestingly, attributed this lack of attention to curiosity in adults to the common perception that children are by nature more curious. She further speculated that this perception is an extension of society's glorifying youth, ignoring the middle years, and abhorring old age. Rossing and Long believed the lack of research into adult curiosity has led to confusion and an ambivalence about curiosity's relevance to learning among adult educators.

Although curiosity has been mentioned in the literature as something important to plan for in formal training (e.g., Sonnenburg & Goldberg, 1992), no empirical evidence has been gathered to bolster these claims. In addition, the possible relationship between curiosity and informal workplace learning has not been explored.

The Purpose of the Study

Curiosity is considered to be an information-seeking process that directs and motivates learning (Berlyne, 1954, 1960, 1963). Since Deming (cited in Senge, 1993, p. 6) averred that people's "curiosity to learn" is destroyed as they mature, especially in the workplace, a more thorough understanding of the role and contribution of curiosity to learning, and informal workplace learning in particular, might help human resource practitioners design better organizational interventions. Such an understanding might assist these practitioners as they facilitate employee workplace adaptation or socialization and nurture an organizational climate in which learning is fostered. A clearer understanding of curiosity may also help learning theorists appreciate the need to account for curiosity in learning theory. Consequently, the purpose of this research was to investigate the possible interrelationships between curiosity and socialization-related learning in an effort to examine curiosity's role in one kind of informal workplace learning, the socialization process, and to consider its implications for the field of adult learning and organizational behavior.

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The Novelty Experiencing Scale (Pearson, 1970) is an 80-item scale, consisting of four 20-item subscales measuring novelty experiencing or the motivation for new experiences. The tendency to seek novelty is broken down into four scales on the basis of the source of stimulation and the type of subjective experience. The source of stimulation can be internal or external to the individual, while the subjective quality of the experience is either cognitive or sensational. Pearson combined these classifications into a 2 x 2 model, yielding four forms of the tendency toward novelty experiencing: External Cognitive, Internal Cognitive, External Sensation, and Internal Sensation. Alpha coefficients were .90, .83, .85, and .83, respectively.

The Sensation Seeking Scale-Form V (Zuckerman, 1979) is a 40-item scale designed to measure sensation seeking. The test consists of four factor subscales: Disinhibition, Boredom Susceptibility, Thrill and Adventure Seeking, and Experience Seeking. Zuckerman, Ulrich, and McLauglin (1994) defined sensation seeking as "...the need for varied, novel, and complex sensations and experiences and the willingness to take physical and social risks for the sake of such experiences" (p. 563). The Disinhibition subscale represents the seeking of sensation stimuli through sexual activity, partying, and drinking. Boredom Susceptibility reflects a low tolerance for boredom and restlessness when there is a lack of varied stimulation in the environment. Thrill and Adventure Seeking describes the desire to seek sensation stimuli through unusual or sometimes risky physical activities like mountain climbing. The fourth subscale, Experience Seeking, measures the seeking of unusual experiences and sensations and the unconventionalness of an individual's lifestyle. Alpha coefficients for the four subscales were .81, .77, .86, and .75, respectively.

Socialization-related learning was determined by a modified version of the Workplace Adaptation Questionnaire (Morton, 1993). It is a self-reported, 22-item instrument, consisting of three subscales developed to measure employee socialization-related learning and one subscale that measures satisfaction with learning experiences. The four subscales are as follows: Job Knowledge, Acculturation to the Company, Establishing Relationships, and Satisfaction with Learning Experiences. Job knowledge refers to the extent respondents report mastering the tasks of their jobs and consists of eight questions. Acculturation to the company is a five-item subscale that measures the extent to which employees learned the norms, values, and culture of their organizations. Establishing Relationships, the third subscale, contains five items that assess the employees' ability to identify coworkers who could provide useful information or who know their way around the organization. Lastly, the four-item Satisfaction with Learning Experiences subscale evaluates employees' satisfaction with their learning experiences at the organization. Cronbach's alpha internal consistency reliabilities were, respectively, .96, .86, .85, and .81. For the purpose of this study, the Satisfaction with Learning subscale will not be examined.

Procedure. The tests were administered at the participants' places of work. The three companies, all operating in the suburbs of Washington, D.C., participated only on the condition of anonymity and were informed of the results. The purpose of the study was first explained to each subject, and the measures were then distributed, with an average administration time of 35 minutes per individual.

Results

Table 1 shows the means and standard deviations for each of the 10 curiosity subscales and three socialization-related learning subscales.

Table 2 presents the correlations between all 10 curiosity dimensions and the three socialization-related learning dimensions. Of special interest is the moderate positive and significant relationships between all of the Workplace Adaptation Questionnaire subscales and the Melbourne Curiosity Inventory subscales. The Novelty Experiencing Scale's Internal Cognitive, Internal Sensation, and External Cognitive subscales were all positively and significantly related to the Job Knowledge subscale as well. The only significant correlation between any of the Sensation Seeking Scale and Workplace Adaptation Questionnaire subscales was a negative one between Thrill and Adventure Seeking, Experience Seeking, and Acculturation. A possible interpretation of this would be that newhires are a bit more reserved and introspective (i.e., they are on their best behavior) when they are learning the

norms and procedures of their new organization. At this time, they are still "feeling their way around." It may also be that the three company cultures represented in this study discourage such behavior.

Table 1
Mean Scores and Standard Deviations of Subscales*

Subscale	M	SD
Job Knowledge	33.3	4.4
Acculturation	19.0	3.5
Establishing Relationships	21.2	3.0
Melbourne State Curiosity	58.5	11.5
Melbourne Trait Curiosity	60.8	10.0
External Sensation	11.9	4.8
Internal Cognitive	13.3	5.4
Internal Sensation	10.9	4.5
External Cognitive	11.0	4.7
Disinhibition	47.3	10.2
Boredom Susceptibility	52.6	11.7
Thrill and Adventure Seeking	43.6	11.8
Experience Seeking	52.5	10.1

*Note. N=233

Table 2
Interrcorrelations Between Workplace Adaptation Questionnaire and Curiosity Subscales*

	JK	AC	ER	MS	MT	ES	IC	IS	EC	DS	BS	TS	EX
JK	—	**.42**	**.37**	**.31**	**.34**	-.06	**.34**	**.23**	**.16**	-.04	-.07	-.11	.02
AC	—	—	**.43**	**.31**	**.27**	-.08	.10	-.02	.02	.03	-.08	**-.19**	**-.13**
ER	—	—	—	**.22**	**.22**	-.02	.10	.08	.03	.09	-.04	-.03	.03
MS	—	—	—	—	**.79**	-.03	**.42**	.15	**.29**	-.10	-.10	.07	.01
MT	—	—	—	—	—	.04	**.44**	**.18**	**.38**	.01	-.02	.10	.05
ES	—	—	—	—	—	----	.04	**.26**	**.29**	**.24**	.04	**.64**	.10
IC	—	—	—	—	—	----	----	**.48**	**.62**	**-.17**	**-.19**	.08	.16
IS	—	—	—	—	—	----	----	----	**.48**	.19	.09	**.20**	**.32**
EC	—	—	—	—	—	----	----	----	----	-.11	**-.14**	**.18**	**.18**
DS	—	—	—	—	—	----	----	----	----	----	**.47**	**.13**	**.22**
BS	—	—	—	—	—	----	----	----	----	----	----	-.01	**.33**
TS	—	—	—	—	—	----	----	----	----	----	----	----	**.16**
EX	—	—	—	—	—	----	----	----	----	----	----	----	----

*Notes. N=233 **Bold-faced print:** $p < .05$; for $r > \pm .17$, $p < .01$, for $r > .26$, $p < .001$

JK = Job Knowledge
AC = Acculturation
ER = Establishing Relationships
MS = Melbourne State Curiosity
MT = Melbourne Trail Curiosity
ES = External Sensation
IC = Internal Cognitive
IS = Internal Sensation
EC = External Cognitive
DS = Disinhibition
BS = Boredom Susceptibility
TS = Thrill and Adventure Seeking
EX = Experience Seeking

Further analysis through regression techniques indicated that several of these subscales would be useful in a model for determining whether curiosity significantly contributes to socialization-related learning and thus the socialization process. The scores of the three Workplace Adaptation Questionnaire subscales were summed (M =71.9; SD = 8.5), and this total score became the dependent variable in the regression model. The three curiosity subscales significantly correlated to the total Workplace Adaptation Questionnaire score (Melbourne State Curiosity, Melbourne Trait Curiosity, and Internal Cognitive; r = .38, .41, and .25, respectively) were all then included as independant variables in a regression

equation. The R^2 for the regression model was .182, i.e., curiosity explained a significant and meaningful 18.2 percent of the variance ($p < .001$) in socialization-related learning. Therefore, curiosity's predicted relationship and contribution to socialization-related learning and informal workplace learning was supported.

Discussion

The process of becoming socialized into an organization is a complex one. Newcomers require a certain amount of verve and a considerable desire to learn for there to be any hope of a favorable socialization outcome.

The results of this study upheld the notion that curiosity indeed plays a significant role in socialization-related learning and thus the socialization process in general. Newcomers need and use curiosity to help them learn their interpersonal and technical requirements of their jobs. An individual's curiosity or desire for information and knowledge motivates and directs information-seeking activities such as asking questions, observing, thinking, reflecting, reading, writing, and learning by trial and error to alleviate their sense of uncertainty about how to perform their jobs and how to define exactly their respective roles in their organizations. By successfully employing these curiosity-induced behaviors, newcomers are much more likely to learn their jobs quickly and properly, and adapt to their organizations overall. Ultimately, turnover declines, and the organization benefits.

Implications for Theory and Practice

The findings of this study could benefit those interested in educating adults. The field of adult education should gain by an understanding of the relevance of curiosity in adult learning contexts. Curiosity is not simply a phenomenon of our youth; it is alive and well in adult learning contexts like the workplace. It is important in that it motivates and directs information seeking and knowledge acquisition in almost all kinds of learning.

As adult educators, trainers should be encouraged to incorporate more curiosity-inducing stimulation into training endeavors. As adult learners' interests are aroused, problems would be explored in greater depth, creativity would be inspired, and learning would be much more likely to be transferred and used on the job. Stimulating curiosity could also foster a workplace atmosphere of learning, which, in turn, may enhance organizational commitment by employees and possibly improve a company's capacity to adapt to the demands of an ever-changing work environment.

Moreover, the empirical evidence offered here may provide some evidence of the importance of intrinsic motivators, like curiosity, in the andragogical model (see Reio [1996] for a fuller explanation).

Socialization theorists should gain from the knowledge that it is curiosity-induced behaviors that at least partly drive the socialization process. Curiosity or information seeking is vital to new employees' mastering required interpersonal and technical skills and adapting to their organizations. Without at least some measure of learning success, the newcomers' socialization and retention could be in jeopardy. Thus, the relevance of curiosity and the behaviors it motivates should be more fully researched as they relate to the socialization process. Curiosity is very relevant, but more research is needed to more fully explain all of its possible roles.

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Outcomes associated with being a mentor: Who benefits from being a mentor?

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While mentoring is considered an invaluable development tool for newer employees and during early career (e.g., Kram, 1983), we still know little about it. This study addresses the need to examine outcomes associated with being a mentor and what predicts them. The relationships between five clusters of mentor benefits and mentor and relationship characteristics were examined. Results shed early light on who benefits from being a mentor and in what type of relationship.

Mentoring in the workplace has been associated with attractive outcomes for mentees. Growing literature suggests that those who have been mentored tend to have more information about the organization (Ostroff & Kozlowski, 1993); more promotion opportunities (e.g., Fagenson, 1989; Dreher & Ash, 1990; Bachman & Gregory, 1993; Kirchmeyer, 1995); greater job satisfaction (e.g., Koberg, Boss, Chappell & Ringer, 1992; Dreher & Ash; Fagenson, 1989); and greater recognition within the organization (Fagenson, 1989). Academicians and practitioners alike sing the praises of having a mentor.

Few have theoretically or empirically considered outcomes associated with *being* a mentor. Indeed, the traditional definition of mentoring suggests that the relationship is intended to benefit the mentee. A recent definition describes mentoring as

> "a one-to-one relationship between a more experienced member (mentor) and a less experienced member (mentee) of the organization or profession. The relationship is developed to promote the professional and personal growth of the mentee through coaching, support and guidance. Through individualized attention, the mentor transfers needed information, feedback and encouragement to the mentee as well as providing emotional support and 'putting in a good word' when possible" (Mullen 1994; p. 259).

The intent of the mentoring relationship, to promote the personal and professional growth of the mentee, is clear. Yet the mentor may stand to gain as well. It has recently been suggested that the mentoring relationship is actually more of an exchange of information than has (Mullen, 1994).

A few authors have described potential benefits of being a mentor, but few have been empirically tested. Zey (1984) suggested four primary outcomes of being a mentor: 1) career enhancement; 2) intelligence / information; 3) advisory role; and 4) psychological rewards. Hunt and Michael (1983) suggested that mentors gain satisfaction and self-confirmation, while Bushardt, Moore, and Debnath (1982) asserted that the "young protégé can flatter his/her mentor in order to feed the mentor's vanity" (p. 49). Recent empirical work indicates that mentors seek information from their mentees (Mullen & Noe, 1996), consistent with Noe's (1988) assertion that mentors may avoid technical obsolescence by gaining new information from their mentees.

Ragins and Scandura (1993) recently reported that they found intentions to serve as mentors to be positively linked to *expected* benefits and negatively linked to expected costs. It was also found that individuals with experience as a mentor reported stronger intentions to mentor in the future, and anticipated fewer drawbacks to the mentoring role (Ragins & Cotton, 1993). McKenna (1988) categorized mentor benefits (or outcomes) into four dimensions: 1) professional; 2) personal esteem; 3) skill; and 4) relationship. Mentors in her study reported benefits in all four areas, but largely in the relationship dimension. To summarize, ten broad categories of benefits of

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being a mentor have emerged, although these remain largely untested:

1. Intrinsic satisfaction in helping the mentee grow; legacy (e.g., Burke, 1984; Kram, 1985);
2. Extrinsic recognition and power (e.g., Zey, 1984);
3. Improved interpersonal skills and knowledge (e.g., Krupp, 1987);
4. Sense of self-worth/self-esteem (e.g., Zey, 1984);
5. Friendship and loyalty (e.g., Burke, 1984; Shaw, 1989);
6. Idea stimulation and testing (e.g., Reich, 1986);
7. improvement of subordinate performance; task delegation/workload easing (e.g., Burke, 1984; Zey, 1984; Noe, 1990);
8. Insight into others' needs (e.g., Newby & Heide, 1992; Zey, 1984);
9. New information (e.g., Noe (1988); Newby & Heide, 1992; Zey, 1984); and
10. Organizational compensation.

Research Questions

Based on the earlier literature which at least suggests potential outcomes that may be associated with being a mentor, the current study began to investigate the following issues:

1. Are the outcomes or benefits of being a mentor described above actually experienced by mentors?
2. With what characteristics of the mentor are the benefits of being a mentor associated?
3. With what characteristics of the mentoring relationship are the benefits of being a mentor associated?

Mentor Characteristics

Age Consistent with Noe's (1988) assertion that serving as a mentor can help a senior employee avoid skill obsolescence by providing him/her a source of new information (i.e., the mentee). Largely because it was assumed older mentors typically had more to gain, it was expected that the mentor's age would be positively related to benefits of serving that role: Hypothesis 1: Benefits of being a mentor will be positively associated with the mentor's age.

Gender The mentee's gender, the mentor's gender, the gender composition of the relationship (i.e., same sex vs. cross sex) and gender role orientation have all been examined to some extent. As far as mentee's gender is concerned, women are reported to perceive more barriers to having a mentor than men do (e.g., Noe, 1988; Ragins & Cotton, 1991), but this has not necessarily been substantiated in terms of actual numbers of men and women with mentors (Dreher & Ash, 1990). Horgan and Simeon (1990) did find that mentoring relationships last longer for male mentees and tend to result in larger effects on income than for female mentees. Mullen and Noe (1996) found that mentor gender did not significantly impact information seeking by mentors. *Willingness* to mentor among men and women has been found to be equivalent, although women anticipate more drawbacks to becoming a mentor (Ragins & Cotton, 1993). Researchers have also begun to look at gender composition of mentoring relationships, revealing few differences between same-sex and cross-sex mentorships (Burke & McKeen, 1995; Olian, Carroll, Giannantonio, & Feren, 1988; Clawson & Kram, 1984).

This study examined mentor gender as it relates to the benefits he/she receives. Because female employees may perceive more barriers to promotional opportunities and may experience a "glass ceiling" effect, it was expected that they had more to gain from serving as mentors: Hypothesis 2: Benefits of being a mentor will be greater for female mentors than for male mentors.

Organizational Tenure Although little or no relevant empirical work exists, the current researcher expected to find a positive relationship between the mentor's organizational tenure and the benefits he/she experiences, because the mentee potentially brings a new perspective that

someone embedded in the organization may not have otherwise seen: Hypothesis 3: Benefits of being a mentor will be positively associated with the mentor's organizational tenure.

Mentor Self-monitoring As defined by Snyder (1974), high self-monitors exhibit high attentiveness to external cues and act according to those cues. Low self-monitors are defined by low attentiveness to external cues, relying on internal cues to guide their behavior. Although self-monitoring did not impact mentor information seeking in a recent study (Mullen & Noe, 1996), it was expected in this study that high self-monitoring mentors would be more attuned to the cues they receive from their mentees and, thus, stand to gain more from the relationship: Hypothesis 4: Benefits of being a mentor will be positively associated with mentor self-monitoring.

Relationship Characteristics

Time Spent Together The time mentors and mentees spend together has not been systematically examined, but was considered in this study as an important correlate of outcomes for mentors. It was expected in this study that the more time mentors spent (i.e., per month) with their mentees, the more likely they would be to benefit from that relationship: Hypothesis 5: Benefits of being a mentor will be positively associated with the amount of time he/she spends with his/her mentee.

Mentoring Functions According to Kram (1983), mentors serve two primary functions: 1) vocational functions that assist the mentee with career and professional development; and 2) psychosocial functions that help the mentee grow personally and to gain friendship. Kram suggests that the most intense mentoring relationships are marked by both vocational and psychosocial functions. Thus, it was expected in the current study that mentors would benefit more when both functions were being performed: Hypothesis 6: Benefits of being a mentor will be positively associated with the mentor's performance of psychosocial and vocational mentoring functions combined.

Methodology

Participants Mentors from assigned and nonassigned relationships in 17 Midwestern firms participated. A variety of jobs were represented, from executives to engineers to underwriters to human resource staff. The response rate was nearly 10 percent (i.e., 161 of 1647 surveys).

Surveys Mentors participated by completing a paper and pencil survey, including existing measures as well as newly developed measures where none existed. Participants were asked to refer only to one mentoring relationship, the most recent or the most intense. Follow-up reminders were not possible, since the researcher was not able to identify those who received the surveys. Confidentiality was strictly maintained.

Measures

Mentor Characteristics. The mentor's age, gender, and organizational tenure were solicited through single-item, direct questions. Self-monitoring was measured via nine applicable items from Snyder's (1974) Self-monitoring scale (α = .88).

Relationship Characteristics. Time spent together was measured by asking the mentor how much time (in hours) he/she spends with his/her mentee per month. The vocational and psychosocial mentoring functions were measured via Noe's (1988) 21-item scale with Likert scale responses. Seven of the 21 items measured vocational functions (α = .91); 14 of the items measured psychosocial functions (α = .90). Relationship phase was measured via a single item, based on Chao and Kozlowski's (1992) item and developed for this survey requiring the mentor to check the statement that best described his/her mentoring relationship.

Benefits of Being a Mentor. The categories of outcomes that have been linked with serving as a mentor were developed into 20 items for this study, since no such scale existed. These items

included, "To what extent have you groomed your mentee to move up in the company as you have?" and "To what extent have you sought information from your mentee?"

Data Analysis Strategy Descriptive statistics were computed for each of the variables. Correlation coefficients were computed to reflect the extent of association among the variables; reliability coefficients were computed as an indication of the extent to which scale items were internally consistent.

The benefits were grouped into factors based on the results of a factor analysis with no factors specified and Varimax rotation. Canonical correlations were then computed, using the benefit factors as the dependent variables and the independent variables described above to test Hypotheses 1 through 6 simultaneously. The Canonical method was appropriate because of the involvement of a multiple-factor set of dependent variables and multiple independent variables.

Results

Table 1 holds the descriptive statistics. The typical mentor (i.e., the mean) was 42 years of age, male (72%), held a bachelor's degree, had been with the organization 13 years and in the job title for 5.25 years. Correlation coefficients and alpha coefficients are found in Table 2. The alpha coefficients suggest that the multiple-item scales used were rather consistent internally, with values ranging from .88 for the Self-monitoring scale (Snyder, 1974) to .91 for the vocational mentoring functions subscale (Noe, 1988). They appear in the diagonal of Table 2.

Mentor Benefit Factors As a result of factor analysis with Varimax rotation of the 20 benefit items, five underlying factors emerged. The factors appeared to represent the following five categories of benefits: 1) Feelings of worth; 2) Recognition by others; 3) Using the mentee as a resource; 4) Leadership development; and 5) Compensation by the organization. These factors were treated as the interrelated dependent variables in the Canonical correlations that tested Hypotheses 1 through 6 (see Results below). Pearson Correlation coefficients (see Table 2) support the notion that these categories of benefits are highly interrelated and should, therefore, be treated as such.

Testing Hypotheses 1 through 4 Pearson correlation coefficients indicate that select independent variables were related to select mentor benefit factors (see Table 2). The separate

Table 1. Means and Standard Deviations: Independent and Dependent Variables

Variable	Response Scale	N	Mean	Std. Dev.
Benefit 1 (Self-worth)	1 = to a very small extent 2 = to a very large extent	139	3.94	0.73
Benefit 2 (Recognition)	1 = to a very small extent 2 = to a very large extent	139	2.53	0.89
Benefit 3 (Resource)	1 = to a very small extent 2 = to a very large extent	139	3.31	0.88
Benefit 4 (Leadership)	1 = to a very small extent 2 = to a very large extent	139	3.13	0.82
Benefit 5 (Compensation)	1 = to a very small extent 2 = to a very large extent	139	1.74	1.07
Age	In years	139	42.36	8.62
Education	1 = high school; 5 = grad degree	139	3.17	1.32
Self-monitoring	1 = True; 2 = False	139	0.41	0.20
Psychosocial Functions	1 = to a very slight extent 2 = to a very large extent	122	3.61	0.64
Vocational Functions	1 = to a very slight extent 2 = to a very large extent	122	3.27	0.97
Time Spent	In hours	122	27.43	36.61

Table 2. Correlation and Alpha Coefficients for Dependent and Independent Variables

Variables	Ben.1	Ben.2	Ben 3.	Ben 4	Ben. 5	Age	Gender	Tenure	Self-mon.	Time Spent	Psycho.	Vocat.
Dependent												
Benefit 1												
Benefit 2	.46***											
Benefit 3	.58***	.44***										
Benefit 4	.53***	.53***	.56***									
Benefit 5	.28***	.43***	.20*	.28***								
Independent												
Individual												
Age	.32***	.02	.09	.06	.06							
Gender	.03	.04	-.16*	-.10	-.08	-.12						
Tenure	.21**	-.01	.09	.04	-.09	.58***	-.13					
Self-monitor	.10	-.11	.04	.01	.07	-.10	-.08	(.88)				
Relationship												
Time Spent	.11	.14	.23**	.31***	.18	-.12	-.05	.02	.04			
Psychosoc. Functions	.65***	.41***	.40***	.39***	.23**	.33***	-.02	.18*	.02	-.02	(90)	
Vocational Functions	.50***	.35***	.69***	.42***	.17*	.18*	-.14	.16*	-.02	.18*	.55***	(.91)

N = 139; * p < .05; ** p < .01; *** p < .001; Alpha coefficients for multiple-item scales appear in parentheses.

correlations support a positive relationship between age and feelings of self-worth (Benefit 1) and between tenure and feelings of self-worth (Benefit 1), but do not support the hypothesized relationship between gender and mentor benefits. Results of the Canonical correlation including the five factors of mentor benefits as the dependent variables and the mentor characteristics as the independent variables appear in Table 3. These results indicate that the combined mentor individual differences are significantly related to the mentor benefit factors, supporting this study's assertions. Hypotheses 1 through 4 received general support, with the support for any one hypothesis being relatively weak.

Testing Hypotheses 5 and 6 Pearson correlation coefficients suggest that there are relatively strong relationships between the separate mentor benefit factors and the separate relationship characteristics. Time spent with one's mentee was related to using the mentee as a resource (Benefit 3), developing leadership skills (Benefit 4), and organizational compensation (Benefit 5). The psychosocial and vocational functions were positively related to each of the five benefit factors.

Results of the Canonical correlation including the five factors of mentor benefits as the dependent variables and the relationship characteristics as the independent variables appear in Table 3. These results supported the relationship between the combined mentor benefits and the relationship characteristics and indicated that mentor benefits are more strongly related to relationship characteristics than to mentor characteristics. Hypotheses 5 and 6 were supported.

Discussion

It appeared from the patterns of significant Pearson correlations and the Canonical correlations that the relationship characteristics were more highly related to the mentor benefits than were the mentor individual differences. The strongest relationship appears to be between mentor benefits and serving the psychosocial and vocational functions. Mentors who served both functions tended to be the recipients of greater benefits than the mentors who didn't. Further, mentors who more time with their mentees tend to receive greater benefits.

Table 3. Canonical Correlations: Testing Hypotheses 1-6

Canonical Corr.	Adj. Canonical Corr.	Std. Error	Squared Canon.	F-value (P-value)
	Mentor Benefits with Mentor Individual Differences			
0.40	0.33	0.07	0.16	1.90 ($p < .01$)
0.30	0.26	0.08	0.09	1.18 ($p < .30$)
0.11		0.08	0.01	0.29 ($p < .94$)
0.02		0.09	0.00	0.02 ($p < .98$)
Wilks' Lambda	F-value 1.90 ($p < .01$)			
Roy's Greatest Root	F-value 5.06 ($p < .001$)			
	Mentor Benefits with Relationship Characteristics			
0.75	0.73	0.04	0.56	11.97 ($p < .001$)
0.54	0.52	0.06	0.29	6.83 ($p < .001$)
0.29	0.27	0.08	0.08	3.46 ($p < .05$)
Wilks' Lambda	F-value 11.97 ($p < .001$)			
Roy's Greatest Root	F-value 29.37 ($p < .001$)			

N = 139; * $p < .05$; ** $p < .01$; *** $p < .001$

Overall support was also generated for the relationship between mentor individual differences and mentor benefits through the canonical correlation, although the Pearson correlation coefficients suggest that the relationships between individual independent variables and the separate mentor benefits are not across the board (see Table 2). Among these variables, mentor age had the strongest association with any of the mentor benefit factors, namely the feelings of self-worth. It appears to matter most whether mentors are serving the psychosocial and vocational functions and how much time they spend with their mentees. This is encouraging, because these are factors the mentor can control. Apparently less important are the mentor individual characteristic, which are more stable and largely nonchangeable.

Separate correlation coefficients indicated that feelings of self-worth from mentoring (Benefit 1) were greater for older employees and those who had been with the organization longer. This is important to know, because we can encourage these individuals to be mentors. There was also a relatively weak link between gender and using the mentee as a resource (Benefit 3), such that female mentors were less likely to turn to the mentee as a resource. This was inconsistent with what was hypothesized.

The combined relationship characteristics were even more strongly related with the combined mentor benefits. Again, this is encouraging since these are factors within the mentor's control (i.e., psychosocial and vocational functions, and time spent with one's mentee). The separate correlation coefficients reveal that both the psychosocial and vocational functions were positively associated with each of the five mentor benefit factors. Time spent with one's mentee was positively related to using the mentee as a resource (Benefit 3), developing leadership skills (Benefit 4), and organizational compensation (Benefit 5). The more mentors served the psychosocial and vocational functions and the more time they spent with their mentees, the more likely they were to report receiving benefits from being a mentor. The implications for mentoring are positive: the mentor stands to gain from the mentoring relationship as well as the mentee. This makes mentoring seem even more valuable than has previously been suggested.

Limitations

One concern with this study is the relatively low response rate. Only 10% (i.e., 161) of the surveys were returned; 139 were usable for testing Hypotheses 1-4 while 122 were usable for testing Hypotheses 5 and 6. Response rates in this range do raise questions about sample

representativeness. A contributing factor to the low response rate was the use of the surveys, for lack of a better vehicle, to identify mentors in the organizations. Many of those who received surveys may not have been mentors and were not suited for the study. The number of nonrespondents who were mentors versus nonmentors was unavailable, but this may be indicative of the difficulty of identifying mentors and measuring mentoring phenomena. Mentoring was defined more specifically in this study than it has been in other studies, which may also have lowered the response rate. Viswesvaran, Barrick and Ones' (1993) formula also suggests that the responses in this study were representative. The 10% response rate is close to the 13% rate computed via their Critical Response Rate (CRR) formula, using conservative estimates.

Another concern is the use of self-report survey as the single data source, introducing the potential threat of method bias contamination. Future work should investigate other data sources, although finding other vehicles for tapping mentors' perceptions will be challenging.

Future Research Directions

The issue of what a mentor gains from serving that role is an important one that needs to be pursued further. Future studies should consider comparing mentors and nonmentors, moving beyond looking solely at mentors. Academicians and practitioners seem to agree having a mentor is an important, if not essential, vehicle for professional development. But if we want to encourage senior members of the organization to serve as mentors, we need to also consider what outcomes they can expect.

Past references to outcomes of being a mentor have been largely anecdotal; much more empirical examination is needed. The current study began an investigation of benefits of being a mentor and what mentor characteristics and relationship characteristics are related to those benefits. It asked the questions, "Who benefits from being a mentor and how?" and "In what relationships do mentors benefit and how?" Other independent variables, beyond those included in this study, should be considered. The current study suggests that both individual differences between mentors and particularly relationship characteristics can predict outcomes received by serving as a mentor. While the study needs to be replicated and expanded to move this line of research beyond the exploratory stage, it offers some implications that are potentially very important for organizations and their senior (i.e., potential mentors) members. Knowing how mentors can benefit from serving that role, and under what circumstances, allows individuals and the organizations of which they are members greater opportunities to maximize the outcomes of mentoring, for mentors as well as mentees.

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